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ABSTRACT OF THE INVENTION

A high purity aqueous solution of hydroxylamine product is prepared by treating an aqueous solution of hydroxylammonium salt with a base like ammonia at low temperatures. A novel process can be carried out by separating the ammonium salt side product from hydroxylamine with a low temperature filtration and a resin-exchange process. The concentration of the hydroxylamine product is further improved by a safe distillation process that produces a high purity and high concentration hydroxylamine product with reduced risks of explosion.